

### **Remarks**

This is in response to the final Office Action mailed on May 15, 2007. Claims 6 and 28 are canceled without prejudice or disclaimer. Claim 23 is amended, support for the amendments being found, for example, at page 22, line 14 through page 23, line 15 of the application. Claims 1-5, 7-9, 12-27, 29-31, and 34-45 remain pending. Reconsideration and allowance are respectfully requested for at least the following reasons.

#### **I. Claim Rejections – 35 U.S.C. 112**

##### **A. Written Description**

In section 7 of the Action, claims 1-9, 12-31, and 34-45 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed, and the correctness of the rejection is not conceded. Reconsideration is requested for the following reasons.

The Action states that the specification fails to describe a dot pattern having a fixed frequency for each direction as recited by claims 1 and 23. However, for at least the following reasons, it is respectfully suggested that this limitation is supported.

First, support for the fixed frequency limitation is found at page 7, lines 23-26 of the application. This paragraph states that the dot arrays have the "same spatial repetitive frequency in both directions." The Examiner appears to interpret this to simply mean that the frequencies are the same in both directions, but that the frequency could be something other than fixed. However, this sentence also states that the dot patterns have the same "spatial repetitive" frequency. The phrase "spatial repetitive" means that the distance (i.e., "spatial") between dots in the dot array repeats (i.e., is "repetitive"), which means that the frequency of such a dot array is fixed.

Second, the Examiner concedes that Figures 2 and 4 of the application show dot arrays with regular or fixed frequencies. For example, in Figure 4, at 401, the "u" and "v" directions are labeled, and the dot pattern has a fixed frequency for each of the directions. The dot pattern has the frequency " $f_u$ " in the u direction, and the frequency " $f_v$ " in the v direction. As such, Figures 2 and 4 provide further support for the fixed frequency limitation.

Third, the equations in the application support the fixed frequency limitation as well. For example, Equations 1-3 on page 8 of the application represents the Fourier series expansion of the original dot array and the phase-shifted dot array. Function  $\delta(x)$  is the Dirac delta (often called the unit impulse function) that has the value of infinity for  $x = 0$  and the value zero elsewhere. Equation 1 shows that  $f_0(x,y)$  will be 0 when  $x = 0, T, 2T, 3T, \dots$  and  $y = 0, T, 2T, 3T, \dots$ , and  $f_0(x,y) = 1$  elsewhere. This illustrates that the dot pattern has a fixed frequency  $1/T$  where  $T$  is the period for the dot pattern in each direction. Since the variable  $T$  does not vary, the period and associated frequency must therefore be fixed.

The Action also states that the specification does not disclose a tangible optical watermark, as recited by claim 23. This rejection is respectfully traversed, and the correctness of this rejection is not conceded. However, claim 23 now recites an optical watermark incorporated into a document. Support for this limitation is found at page 22, line 14 through page 23, line 15 of the application.

For at least these reasons, it is respectfully suggested that the claims satisfy section 112, first paragraph. Reconsideration and allowance are requested.

#### B. Enablement

In section 8 of the Action, claims 6 and 28 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. This rejection is respectfully traversed, and the correctness of the rejection is not conceded. In any event, claims 6 and 28 are canceled without prejudice to place the application into condition for allowance. Reconsideration is therefore requested.

## II. Claim Rejections – 35 U.S.C. 101

In section 11 of the Office Action, the Examiner rejected claims 23-31 and 34-45 under 35 U.S.C. § 101. This rejection is respectfully traversed, and the correctness of the rejection is not conceded.

Claim 23 is amended to recite an optical watermark incorporated into a document. Support for this limitation is found at page 22, line 14 through page 23, line 15 of the application. It is respectfully submitted that amended claim 23, and for the same reasons

dependent claims 24-31 and 34-45, comply with 35 U.S.C. § 101. Reconsideration and allowance are requested.

**III. Conclusion**

Favorable reconsideration in the form of a Notice of Allowance is respectfully requested. Please contact the undersigned attorney with any questions regarding this application.

Respectfully submitted,  
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